

## **MEDICAL DEVICE FOR NEURAL STIMULATION AND CONTROLLED DRUG DELIVERY**

### **Abstract of the Disclosure**

Medical devices and methods are provided for electrical stimulation of neural tissue and controlled drug delivery to a patient. The device includes an implantable drug delivery module which comprises a plurality of reservoirs, a release system comprising at least one drug contained in each of the reservoirs, and control means for selectively releasing a pharmaceutically effective amount of drug from each reservoir; a neural electrical stimulator which comprises a signal generator connected to at least one stimulation electrode for operable engagement with a neural tissue of the patient; and at least one microcontroller for controlling operational interaction of the drug delivery module and the neural electrical stimulator. The microcontroller may control the signal generator and the control means of the drug delivery module. The device may further include a sensor operable to deliver a signal to the microcontroller, for example to indicate when to deliver electrical stimulation, drug, or both.